

WHAT IS CLAIMED IS:

1. A method for treating type II diabetes mellitus in an individual in need of such treatment, said method comprising providing an amount of an insulintropic molecule sufficient to treat said diabetes; wherein said molecule is selected from the group consisting of:

(A) a peptide having the amino acid sequence:

His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-
Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-
Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-
Lys-Gly-Arg;

and

(B) a derivative of said peptide (A), wherein said derivative is selected from the group consisting of:

- (1) a pharmaceutically acceptable acid addition salt of said peptide;
- (2) a pharmaceutically acceptable carboxylate salt of said peptide;
- (3) a pharmaceutically acceptable lower alkyl ester of said peptide; and,
- (4) a pharmaceutically acceptable amide of said peptide;

wherein said molecule has an insulintropic activity which exceeds the insulintropic activity of GLP-1(1-36) or GLP-1(1-37); said molecule combined in admixture with a suitable pharmaceutically acceptable carrier.

2. The method of treating type II diabetes mellitus of claim 1 wherein said insulintropic molecule is a derivative (B) of said peptide (A).

3. The method of treating type II diabetes mellitus of claim 1 wherein said insulintropic molecule is peptide (A).

4. The method of treating type II diabetes mellitus of claim 1, wherein said derivative (B) of said peptide (A) is selected from the group consisting of a lower alkyl amide and a lower alkyl diamide.

5. A method for enhancing the expression of insulin which comprises providing to a mammalian pancreatic B-type islet cell an effective amount of the insulintropic molecule selected from the group consisting of:

(A) a peptide having the amino acid sequence:

His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-
Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-
Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-
Lys-Gly-Arg;

and

(B) a derivative of said peptide (A), wherein said derivative is selected from the group consisting of:

- (1) a pharmaceutically acceptable acid addition salt of said peptide;
- (2) a pharmaceutically acceptable carboxylate salt of said peptide;
- (3) a pharmaceutically acceptable lower alkyl ester of said peptide; and,
- (4) a pharmaceutically acceptable amide of said peptide;

wherein said molecule has an insulintropic activity which exceeds the insulintropic activity of GLP-1(1-36) or GLP-1(1-37); said molecule combined in admixture with a suitable pharmaceutically acceptable carrier.

6. The method of enhancing the expression of insulin of claim 5 wherein said insulintropic molecule is said derivative (B) of said peptide (A).

7. The method of enhancing the expression of insulin of claim 5 wherein said insulintropic molecule is peptide (A).

8. The method of enhancing the expression of insulin of claim 5, wherein said derivative (B) of said peptide (A) is selected from the group consisting of a lower alkyl amide and a lower alkyl diamide.

9. A method for simulating insulin secretion from the pancreas in a patient in a hyperglycemic state, said method comprising providing an amount of an insulintropic molecule sufficient to stimulate insulin secretion in said patient;

wherein said molecule is selected from the group consisting of:

(A) a peptide having the amino acid sequence:
His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-
Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-
Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-
Lys-Gly-Arg;

and

(B) a derivative of said peptide (A), wherein said derivative is selected from the group consisting of:

- (1) a pharmaceutically acceptable acid addition salt of said peptide;
- (2) a pharmaceutically acceptable carboxylate salt of said peptide;
- (3) a pharmaceutically acceptable lower alkyl ester of said peptide; and,
- (4) a pharmaceutically acceptable amide of said peptide;

wherein said molecule has an insulintropic activity which exceeds the insulintropic activity of GLP-1(1-36) or GLP-1(1-37); said molecule combined in admixture with a suitable pharmaceutically acceptable carrier.

5 10. The method for stimulating insulin secretion of claim 9 wherein said insulintropic molecule is said derivative (B) of said peptide (A).

11. The method for stimulating insulin secretion of claim 9 wherein said insulintropic molecule is peptide (A).

10 12. The method for stimulating insulin secretion of claim 9 wherein said derivative (B) of said peptide (A) is selected from the group consisting of a lower alkyl amide and a lower alkyl diamide.

add A1

add B2